

REMARKS

Status of Claims

Claims 7-12 are under examination. Claim 7 has been amended for clarity to specify that each dialog step begins with a shortened prompt. This is consistent with the prior claim, is believed to be more grammatically correct (“always initializing each step” vs. “always initializing a step”) and does not raise new issues, merely makes the language less liable to alternative interpretations.

Invention

In Paragraph 2 of the Office Action the Examiner provides insightful comments as to his interpretation of the relevance of the prior art to the present invention. Applicants respond to the Examiner by

- explaining the differences between the present invention and the prior art, and
- explaining the unexpected benefits of these important differences.

Claim 7 concerns a method for user-adaptive dialog guidance for a speech dialog system, and differs from the prior art in always initializing each dialog step with a shortened prompt. This has some unexpected advantages:

- Whereas the prior art systems always switch to detailed prompt (at least for a few cycles) if the user does not respond appropriately to a shortened prompt, operating under the assumption that this is the best way to accommodate the needs of the inexperienced user, the present system always begins each dialog step with a shortened prompt, no matter how many times previous shortened dialog steps have not been responded to.

Although this might seem contrary to “social-psychology” where the system recognizes an inexperienced user and adapts itself to the needs of the inexperienced user in the shortest possible time by switching to detailed prompts, the present system recognizes that, in the long term, particularly in the case of the repeat user, switching to detailed prompt deprives the inexperienced user of training. By always giving the inexperienced

user a shortened prompt first, even though the inexperienced user may not know how to respond to the shortened prompt, the user is becoming educated over time by first hearing the shortened prompt, followed by the longer prompt. In this way the user quickly learns the meaning of the short prompt and the appropriate response to be entered, and over time transitions from “detailed prompt” to “short prompt” without concern over leaving behind the “detailed prompt”

- By always following the short prompt with the detailed prompt, the user is not afraid of being switched over to a repeating cycle of slower detailed prompts if he fails to respond to one or more short prompts. The user knows that no matter how many times he fails to respond to a short prompt, each subsequent step will begin with a short prompt, thus he will immediately revert to “short prompt mode” as soon as he responds to a short prompt. For example, rather than respond to a short prompt for which he is unsure of the correct response in order to avoid the detailed prompt cycle, the user will wait for the detailed prompt, knowing that the next dialog step will begin with a short prompt.
- Where the user is familiar with certain areas of the dialog system, but there are areas or options where he is not familiar (unfamiliar ground), the user knows he will be given short then detailed prompts for each step. This way, while in unfamiliar ground the user will receive detailed prompts, and as soon as the user returns to familiar ground, he can immediately revert to responding to short prompts, rather than have to wait for the system to go through the number of cycles needed before reclassifying the user as possibly experienced and shifting to short prompts
- In conventional systems, switching from detailed prompt to shortened prompt would result in locking-in to detailed prompt for a number of cycles. Even if the number of cycles with detailed prompt are few, this can be frustrating for the experienced user. With the present system there is never a locking in to starting dialog steps with a detailed prompt, thus, the user has no reservation about listening to a detailed prompt in case of doubt, because he knows “this will not put him back into remedial school” of detailed prompts.
- Where some dialog steps have longer paths and shorter paths to reach a particular

goal, a user might find it faster to get to the goal by a longer path involving more but shorter steps, rather than fewer steps involving detailed prompts. Thus, the user will always go the long route rather than the short route – the familiar route being faster than the unfamiliar route. With the present system, the user will be encouraged to try the unfamiliar route, since he will receive short prompts first, followed by long prompts, thus there is no perception of training, no need to learn how to respond to detailed prompts first followed by having to learn how to respond to short prompts in a second learning step, but instead, learning is easy, seamless, and over time, the user learns the fastest routes to the target.

Since the prior art systems do not always begin with a short prompt, the prior art systems do not realize the above advantages.

According to the Examiner, Surace teaches that the prompt rule is based on a social-psychology empirical observation that the length of prompts should become shorter within a session and across sessions, unless the user is having trouble, in which case the prompts should become longer. This suggests that the lengths start off short and becomes shorter unless the user is experience difficulty. At that time, the prompts will become longer.

Clearly, Surace does not begin each dialog step with a short prompt, and does not recognize the benefits of always beginning each dialog step with a short prompt.

As explained above, the present invention realizes that if each dialog step begins with a short prompt, the user quickly learns the meaning of short prompt over time, and can quickly transition to using short prompt only.

This is contrary to the teaching of Surace switching to detailed prompts for the inexperienced user in order, as explained by the Examiner “to apply the concept of team affiliation which is based on social-psychology empirical observation, to show that the user of the system is more likely to enjoy and prefer using the system if the user feels a team affiliation with the system (column 12, lines 1-22). That is, the system provides a user friendly environment for operating the dialog system, such that the correct actions are being taken accordingly and that one will not become frustrated.” The present invention offers the inexperienced user training in

each step so that the inexperienced user more quickly becomes an experienced user. This training value is lost in the system of Surace, and the user of Surace will tend to remain with the familiar long prompts rather than voluntarily switch to unfamiliar short prompts.

The Examiner concludes that “fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.”

In response, Applicants point out that a system that is contrary to the teachings of all cited prior art (requiring switching to detailed prompts where the user has difficulty) can not be said to be obvious over that prior art.

In fact, how can a prompt be shortened over time, if it does not begin with a longer prompt? The present invention in contrast always begins each dialog step with a short prompt.

The Examiner next repeats the rejection of record.

Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Surace et al. (USPN 6,144,938), hereinafter referenced as Surace in view of obviousness.

Applicants maintain their traversal as explained above. The Examiner has admitted that Surace “does not specifically teach always initializing a dialog step with a shortened prompt”. The Examiner considers however that it would be obvious to modify in the prior art in a manner contrary to the teachings of the prior art.

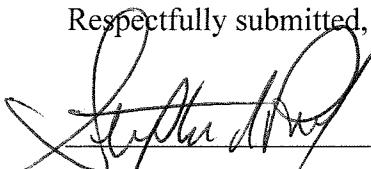
The Examiner indicates that in Surace the prompt rule is based on a social-psychology empirical observation that the length of prompts should become shorter within a session and across sessions, unless the user is having trouble, in which case the prompts should become longer (e.g., more detailed), column 10, lines 26-36. This suggests that the lengths start off short and becomes shorter unless the user experiences difficulty.

This however does not suggest the present invention in which, even if the user is having trouble, and particularly when the user is having trouble, each dialog step begins with a short prompt.

Favorable consideration and early issuance of the Notice of Allowance are respectfully requested. **Should further issues remain prior to allowance, the Examiner is respectfully requested to contact the undersigned at the indicated telephone number.**

The Commissioner is hereby authorized to charge any fees which may be required at any time during the prosecution of this application without specific authorization, or credit any overpayment, to Deposit Account Number 16-0877.

Respectfully submitted,



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Date: **November 12, 2008**